

SCOUT Awarded SBIR Grant from NASA for Development of Autonomous Relative Navigation Systems

SCOUT Awarded SBIR Grant from NASA for Development of Autonomous Relative Navigation Systems for Rendezvous, Proximity Operations, and Docking

ALEXANDRIA, VIRGINIA, UNITED STATES, May 31, 2022 /EINPresswire.com/ -- [SCOUT](#) Inc., a space tech company developing autonomous proximity operations and spacecraft awareness service, today announced its selection for a NASA SBIR award to make relative navigation more resilient and enable more autonomous rendezvous, proximity operations, and docking. This effort is expected to yield advancements in autonomy and resilience across a wide range of NASA applications which often require exhaustive pre-planning and manual operations of multi-satellite systems.

SCOUT's fault-tolerant and robust 6-degree-of-freedom finite-time controllers integrate multiple control system inputs and data sources, such as SCOUT-Vision remote sensing systems, to facilitate faster, more accurate tracking performance and more efficient control energy consumption during proximity operations than conventional controller modes in the presence of real-world challenges such as actuator faults, parametric uncertainty, and unknown external disturbances.

"Autonomous relative navigation is a key-enabling technology for myriad space missions: space debris management, supplying the International Space Station, conducting on-orbit satellite maintenance and assembly, and inter-satellite networking. More persistent, robust, fault-resilient relative navigation integrating precise, remote state and attitude estimation is a game-changer," stated Sergio Gallucci, Co-founder and CTO of SCOUT. "We're excited to have NASA's support; this award will enable allocation of additional resources to crucial real-time navigation systems to support our mission."

"RPO and science mission planning is time-consuming and scheduling-intensive with lacking real-time data: proximity operations are highly prone to abort maneuvers due to state measurement deviation or false-positive conjunction data messages," added Dr. Daero Lee, Senior Guidance, Navigation, and Control Engineer at SCOUT. "We're developing real-time orbit determination systems that integrate on-board GPS signal measurement and analysis to achieve more persistent navigation."

The commercial space industry is a significant potential non-NASA beneficiary of this research and development. Orbital servicing and logistics end-users lack closed-loop, persistent, robust control for rendezvous and proximity operations: this has led to SCOUT's on-board navigation capabilities being adopted by Orbit Fab, Momentus, and are being considered by several additional commercial and Defense users.

Since June of 2021, SCOUT has been successfully operating in space, following the launch of their SCOUT-Vision proximity operation system. Earlier this year, SCOUT announced its [Autonomy Software](#) for spacecraft, which include computer vision and guidance software to make navigation safer and less complex for space operators.

About SCOUT:

SCOUT was founded in 2019 with the mission to enable a new era of space safety and transparency. SCOUT's in-space products and services, first launched in June 2021, allow spacecraft to see and understand things around them. The orbital distributed sensor network developed by SCOUT will significantly improve Space Domain Awareness (SDA) and ensure responsible use of the space environment. The company is a Techstars, MassChallenge, and venture-backed startup with ongoing government contracts and commercial paid pilots. SCOUT holds the Established® 2021 Startup of the Year® title. For more information, visit www.scout.space.

Trisha Navidzadeh

Scout Inc.

trisha.navidzadeh@scout.space

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